RESPONSE TO EPA COMMENTS
FOR YUMA COGENERATION ASSOCIATES
PERMIT #1000103

May 17, 1999

The following comments were submitted to ADEQ by the EPA on May 14, 1999.

Comment 1: The permit appears to be missing applicable requirements for opacity. At a minimum, the 40% opacity limit in ADEQ's SIP-approved Section R9-3-501 should be included in the permit. In addition, if the duct burner is capable of firing on fuel oil, the unit is subject to the opacity standard in 40 CFR 60, Subpart Dc (60.43(c)).

Finally, it is not clear to EPA why ADEQ has removed the opacity condition that was in the source's installation permit. This question also applies to the removal of the particulate matter limit.

Response 1: In determining applicable regulations for the emissions units at Yuma Cogeneration Associates (YCA), both NSPS - New Source Performance Standards, and Arizona Administrative Code (A.A.C.) Article 7 - Existing Stationary Source Performance Standards, were examined for applicability. The possible applicable regulations for the turbine were NSPS Subpart GG and A.A.C. R18-2-719. The possible applicable regulations for the duct burner (which is capable of burning only natural gas) and standby boiler were NSPS Subpart Dc and A.A.C. R18-2-724. The turbine and duct burner (and standby boiler) were found to be subject to NSPS requirements, subparts GG and Dc, respectively due to the capacities and year of commenced construction. Therefore, the emissions units are new sources and the Article 7 existing source requirements are not applicable.

The previous installation permit (permit number 95012) contained requirements for A.A.C. R18-2-719 and -724, after incorrect applicability determinations. ADEQ incorrectly subjected YCA to both NSPS and Article 7 requirements since the NSPS does not contain any standards or limits for opacity and particulate matter. However, it is incorrect to subject one emissions unit to both existing source and new source performance standards, as shown in the definition of existing source from A.A.C. R18-2-101.38 which states that existing source is "any source which does not have an applicable new source performance standard under Article 9 of this chapter". Article 9 in the A.A.C. incorporates 40 CFR 60 by reference. Since the emission units are subject to requirements under 40 CFR 60, they are not existing sources. Consequently, the regulations under A.A.C. R18-2-719 and -724 for particulate matter and opacity were removed from the permit during the title V renewal process.

Additionally, due to the definition of existing source above, the opacity standard presented in the A.A.C. R18-2-702 General Provisions is not applicable to any emissions units located at YCA.

This discussion has been added to the technical review document in order to provide a clearer basis for inclusion and removal of the requirements present in the permit.

Comment 2: The permit does not limit the number of hours that the emission units may be fired on fuel oil. Appropriate opacity monitoring should be added to the permit to ensure that the source is complying with all applicable opacity requirements when firing on oil. Monitoring provisions could specify a Method 9 opacity test upon startup, and weekly thereafter if oil firing continues. Regardless of what compliance method is selected, the permit should ensure that the source

cannot fire continuously on fuel oil without any opacity monitoring requirements.

Response 2: The turbine is subject to the requirements of 40 CFR 60 Subpart GG, which includes standards for sulfur dioxide and nitrogen oxides. Subpart GG does not include emission limits or standards for opacity, even during the firing of fuel oil. As explained above, the opacity standard in A.A.C. R18-2-702.B is not applicable to this source. Since there is no opacity standard to comply with, no periodic monitoring is necessary to ensure compliance.

Comment 3: The NOx limit of 25 ppm for the gas turbine and duct burner does not include an averaging time. This could be interpreted as an instantaneous emission limit that applies at all times. If this is not the case, the permit should include an averaging time.

Response 3: The averaging time for the NOx limit of 25 ppm is given in the definition of excess emissions in Section I.A.3.d.(1) which states that "excess emissions for nitrogen oxide are defined as any consecutive 3-hour period during which the average hourly emissions of nitrogen oxides..." exceeds 25 ppm.

Comment 4: The technical review document states that ADEQ has removed the 1.0 lb/MMBtu sulfur dioxide limit because the emissions limits in the title V permit are more stringent. The title V permit contains fuel sulfur content limits. Since different types of emission limits are being compared, ADEQ should provide a streamlining demonstration that supports its determination.

Response 4: The following comparison has been added to the technical document, demonstrating that the 0.8 percent by weight for natural gas and 0.05 percent by weight for fuel oil are more stringent requirements than 1.0 lb/MMBtu.

Natural Gas

lb/MMBtu = 2 x 0.008 (lb S / lb NG) x 1/1050 (ft^3/Btu) x 1/359 (lbmol NG/ft^3) x 18 (lb NG/lbmol NG) x 1,000,000 (Btu/MMBtu)

= 0.76 lb/MMBtu < 1.0 lb/MMBtu

Fuel Oil

lb/MMBtu = 2 x 0.0005 (lb S/lb FO) x 7.2 (lb FO/gallon) x 1/141,000 (gallon/Btu) x 1,000,000 (Btu/MMBtu)

= 0.05 lb/MMBtu < 1.0 lb/MMBtu

Comment 5: When two applicable requirements have been streamlined, the citation(s) of origin and authority in the permit should include both requirements. For example, the citation for the NOx limit in condition I.A.1.a. should include the appropriate reference to 40 CFR 60, Subpart GG, in addition to the installation permit. It is not clear why the condition sites the NSPS General Provisions in this case.

Response 5: The reference to the General Provisions is to cite the startup, shutdown and malfunction exemptions. Roger Kohn of EPA Region 9 explained that the underlying citation should be cited, even if a more stringent limitation has been taken, outside of the original rule. In this case, the NOx limit on the turbine is set at 25 ppm, more stringent than the Subpart GG requirements, but Subpart GG should still be cited even though the condition has not been included in the permit.